UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,358	04/12/2006	Wouter Harry Rensen	PHNL031205US	8146

38107 7590 10/05/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER	
GIGLIO, BRYAN J	
ART UNIT	**PAPER NUMBER**
2877	
MAIL DATE	**DELIVERY MODE**
10/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,358	RENSEN ET AL.	
	Examiner	Art Unit	
	Bryan J. Giglio	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/12/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12 April 2006 is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Marchitto, et al. (U.S. Patent No. 6889075).

In regard to claim 1, the Marchitto reference teaches a method of determining a property of a substance, the method comprising the steps of performing an optical detection step for determining a position of a volume of interest by means of an objective, moving the objective such that the focal point of the objective is positioned in the volume of interest, performing an optical spectroscopic step for determining the property of the substance in the volume of interest by means of a measurement beam (see c.13, l.13-31 and see c.4, l.46—c.5, l.6, "as a function of depth", confocal means inherent "move the objective" for vertical scanning).

In regard to claim 2, the Marchitto reference teaches the method wherein a coverage of the measurement beam is greater than the objective opening (see c.5, l.34-44, "scanning"), and wherein the objective is moved in a direction perpendicular to the measurement beam while the objective opening

remains within the coverage of the measurement beam (inherent in user generated motion of the device across a region of interest, see fig.2 and 4).

In regard to claim 3, the Marchitto reference teaches the method wherein the substance is a fluid flowing through a biological tubular structure (see fig.4), and further comprising the steps of tracking a movement of the biological tubular structure by repetitively performing the optical detection step, moving the objective such that the focal point remains in the volume of interest (see c.5, l.51-67).

In regard to claim 4, the Marchitto reference teaches the method wherein the optical detection step is performed by means of an imaging method (see fig.2 and 4).

In regard to claim 5, the Marchitto reference teaches the method wherein Raman spectroscopy, fluorescence spectroscopy, elastic scattering spectroscopy, infrared spectroscopy, or photo-acoustic spectroscopy is used for performing the optical spectroscopic step (see c.1, l.53-59).

In regard to claim 6, the Marchitto reference teaches the method wherein the substance is blood and the volume of interest is located in a blood vessel (see fig.4).

In regard to claim 7, the Marchitto reference teaches a computer program product comprising program means for performing the steps of controlling an optical detection component for determining a position of a volume of interest, the optical detection component comprising an objective, controlling the optical detection component in order to move the objective such that the focal point of the objective is positioned in the volume of interest, controlling an optical spectroscopic component for determining a property of a substance in the volume of interest by means of a measurement beam (see citations in regard to claim 1, and see fig.2 and 4, "controller and data collection, where programming is inherent, see c.12, l.4).

In regard to claim 8, the Marchitto reference teaches the computer program product, the program means being adapted to control a second reflective optical element in order to direct the measurement beam from the second reflective optical element onto a first reflective optical element, such that the first reflective optical element directs the measurement beam to the objective opening, the measurement beam having a direction perpendicular to the optical axis of the objective when it impinges upon the first reflective optical element (inherent in fig.4, see scanner and controller).

In regard to claim 9, the Marchitto reference teaches a spectroscopic system for determining a property of a substance comprising an objective for performing an optical detection for determining a position of a volume of interest (see above citations, and see fig.2 and 4), means for moving the objective such that the focal point of the objective is positioned in the volume of interest (see above citations and see fig.2), optical spectroscopic means for determining the property of the substance in the volume of interest, the optical spectroscopic means being adapted to provide a measurement beam (see above citations and see fig.2).

In regard to claim 10, the Marchitto reference teaches the spectroscopic system wherein the means for moving the objective comprise mechanical, electro mechanical and/or piezo-electric components (inherent in fig.4, scanner).

In regard to claim 11, the Marchitto reference teaches the spectroscopic system further comprising a base station and a measurement head, the base station and the measurement head being coupled by at least one optical fibre for transmitting the measurement beam from the base station to the measurement head and for transmitting return radiation from the measurement head to the base station, the measurement head comprising optical means for directing the measurement beam to the objective opening and the means for moving the objective (see c.10, l.54-67, "freedom-of-movement").

In regard to claim 12, the Marchitto reference teaches the spectroscopic system wherein a coverage of the measurement beam is greater than the objective opening (see c.5, l.34-44, "scanning").

In regard to claim 13, the Marchitto reference teaches the spectroscopic system further comprising a first reflective optical element to direct the measurement beam to the objective opening, the measurement beam having a direction perpendicular to the optical axis of the objective (see fig.4).

In regard to claim 14, the Marchitto reference teaches the spectroscopic system further comprising a second reflective optical element to direct the measurement beam to the first reflective optical element, the second reflective optical element being mounted rotatably (see fig.4, scanner, inherent).

In regard to claim 15, the Marchitto reference teaches a method of providing an in vivo analysis of blood comprising: using an imaging system to locate an objective relative to a blood vessel; moving the objective such that a focal point of the objective is aligned with the blood vessel; using a spectroscopic system to direct a laser light beam through the objective and onto the blood vessel; and using return light to perform a spectroscopic analysis of the blood in the blood vessel (see previous citations and see fig.2 and 4).

In regard to claim 16, the Marchitto reference teaches the method further comprising forming a feedback loop such that the position of the objective is compared to the position of the blood vessel after movement of the objective and the objective is moved again until the focal point aligns with the blood vessel (see c.5, l.34-44, "scanning").

Claims 1, 3-10, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lucassen, et al. (U.S. Patent No. 6609015).

In regard to claim 1, the Lucassen reference teaches a method of determining a property of a substance, the method comprising the steps of performing an optical detection step for determining a

position of a volume of interest by means of an objective, moving the objective such that the focal point of the objective is positioned in the volume of interest (see c.4, l.49-59; or see c.10, l.13-21, "depth scan"; and see fig.1), performing an optical spectroscopic step for determining the property of the substance in the volume of interest by means of a measurement beam (see c.7, l.28-37).

In regard to claim 3, the Lucassen reference teaches the method wherein the substance is a fluid flowing through a biological tubular structure (see fig.15), and further comprising the steps of tracking a movement of the biological tubular structure by repetitively performing the optical detection step, moving the objective such that the focal point remains in the volume of interest (see c.4, l.49-59, and fig.15).

In regard to claim 4, the Lucassen reference teaches the method wherein the optical detection step is performed by means of an imaging method (see fig.15).

In regard to claim 5, the Lucassen reference teaches the method wherein Raman spectroscopy, fluorescence spectroscopy, elastic scattering spectroscopy, infrared spectroscopy, or photo-acoustic spectroscopy is used for performing the optical spectroscopic step (see c.5,l.14-25).

In regard to claim 6, the Lucassen reference teaches the method wherein the substance is blood and the volume of interest is located in a blood vessel (see c.4, l.49-59).

In regard to claim 7, the Lucassen reference teaches a computer program product comprising program means for performing the steps of controlling an optical detection component for determining a position of a volume of interest, the optical detection component comprising an objective, controlling the optical detection component in order to move the objective such that the focal point of the objective is positioned in the volume of interest, controlling an optical spectroscopic component for determining a property of a substance in the volume of interest by means of a measurement beam (see citations in regard to claim 1, and see fig.1 and c.8, l.38-46, and c.12, l.47-65, programmed control is inherent).

In regard to claim 8, the Lucassen reference teaches the computer program product, the program means being adapted to control a second reflective optical element in order to direct the measurement beam from the second reflective optical element onto a first reflective optical element, such that the first reflective optical element directs the measurement beam to the objective opening, the measurement beam having a direction perpendicular to the optical axis of the objective when it impinges upon the first reflective optical element (see fig.15 and 16, inherent).

In regard to claim 9, the Lucassen reference teaches a spectroscopic system for determining a property of a substance comprising an objective for performing an optical detection for determining a position of a volume of interest, means for moving the objective such that the focal point of the objective is positioned in the volume of interest (see c.4, l.49-59; or see c.10, l.13-21, "depth scan"; and see fig.1), optical spectroscopic means for determining the property of the substance in the volume of interest, the optical spectroscopic means being adapted to provide a measurement beam (see c.7, l.28-37).

In regard to claim 10, the Lucassen reference teaches the spectroscopic system wherein the means for moving the objective comprise mechanical, electro mechanical and/or piezo-electric components (inherent, see fig.1, and 15).

In regard to claim 13, the Lucassen reference teaches the spectroscopic system further comprising a first reflective optical element to direct the measurement beam to the objective opening, the measurement beam having a direction perpendicular to the optical axis of the objective (see fig.1).

In regard to claim 14, the Lucassen reference teaches the spectroscopic system further comprising a second reflective optical element to direct the measurement beam to the first reflective optical element, the second reflective optical element being mounted rotatably (see fig.1).

In regard to claim 15, the Lucassen reference teaches a method of providing an in vivo analysis of blood comprising: using an imaging system to locate an objective relative to a blood vessel; moving the objective such that a focal point of the objective is aligned with the blood vessel; using a spectroscopic system to direct a laser light beam through the objective and onto the blood vessel; and using return light to perform a spectroscopic analysis of the blood in the blood vessel ((see c.4, l.49-59; or see c.10, l.13-21, "depth scan"; and see fig.1; and see c.7, l.28-37).

In regard to claim 16, the Lucassen reference teaches the method further comprising forming a feedback loop such that the position of the objective is compared to the position of the blood vessel after movement of the objective and the objective is moved again until the focal point aligns with the blood vessel (see fig.15, inherent in process of scanning).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following citations of U.S. Patents, Pre-grant Publications (PGPub), or non-patent literatures (NPL) are included in order to exemplify the state of the art to which the application is related.

Anderson, et al. (U.S. Patent No. 7217266) comprises a blood vessel spectroscopic analyzer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Giglio whose telephone number is (571) 270-1028. The examiner can normally be reached on M-F, 7:30AM-5:00PM EST, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on (571)272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BG
30 September 2007

Kara Geisel
KARA GEISEL
AU 2877